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**Synopsis of thesis entitled**

# A COMPARATIVE STUDY OF PHYSICAL FITNESS AND PHYSIOLOGICAL FTINESS COMPONENTS OF VOLLEY BALL AND KABADDI PLAYERS OF SRINAGAR CITY

**To be submitted to**

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# CHAPTER I
# INTRODUCTION

## Introduction

Physical education and formal education are the two sides of the same coin. Both go hand in hand in carving an individual's personality. Education plays a very important role in any person's success in life. Education provides the necessary tools to tide over the obstacles of life unscathed and lead a meaning and a satisfied life.

In today's 21st century physical education has become an integral part of any form of education. In today's world automation and technology have virtually brought an Individual's physical activities to a standstill as a result he has become both mentally and physically weak, which is adversely affecting his death. This emphasizes, even more, the importance of physical activities in our lives today, which enhance our physical strength, ability, endurance etc. each individual has to strive for his or her own fitness, herein lies the duty of physical teacher to Enlighten his or her students in there aspects. In tune with all other disciplines of life, sports and fitness has its own philosophy and is combative in nature, with its roots deep in human culture, but unfortunately today, man has virtually become a tool at the hands of the gadgets he made for his convenience. He has become less active and leads a sedentary lifestyle.

Health is the means of all the most sublime aspiration and achievements of mankind. It does not only mean to have a strong body and absence of diseases, but includes balanced mind, controlled senses, intellect and integrated ego to have perfect evolution of all important faculties (action, emotion, will and wisdom) of personality into state of self realization (Ganesh 1998).World Book Encyclopedia states health to be a state of physical, mental and social wellbeing. It involves more than just the absence of diseases. A truly healthy person not only feels good physically but also has a realistic outlook at life and gets along with other people. Good health enables to enjoy life and have the opportunity to achieve the goals they have set for themselves.

## Physical Fitness

Physical fitness is the capacity of heart, blood vessels, lungs and muscles to function at optimum efficiency. In previous years, fitness was defined as the capacity

to carry out the day's activities undue fatigue. Physical fitness is now defined as the body's ability to function efficiently and effectively in work and leisure activities, to resist hypo kinetic diseases, and to meet the emergency situations (Corbin and Lindsey,1994). Fitness concepts in elementary physical education center on children's understanding of fitness

as good health, and a working knowledge of activities that promote a healthy level of fitness. However, with increased leisure time, and changes in life styles wrought by the industrial revolution, which took a large proportion of the population away from farm life and into more urban areas, this definition is no longer considered comprehensive enough. The definition for physical fitness is now defined as the body's ability to function efficiently and effectively in work and leisure activities, not only at a set point in time, but at various ages and stages within a person's life cycle. The key is in finding optimum health within the limits of one's lifestyle, in order to be able to resist hypo kinetic diseases.

Physical fitness is a dynamic concept and is continuously growing in importance to everyday life and health. Although being an attribute that has a genetic basis, it is also sensitive to changes in type and amount of physical activity, especially as people age. It is important to measure fitness both as an outcome of physical activity and as a mediator of physical activity's effect on disease morbidity, mortality and injury.

The world health organization (W.H.O) has defined fitness as "the ability to perform muscular work satisfactory." The United States of America, centers for Diseases Control and Prevention. Defined fitness thus: "The fine Health related components of physical fitness are more important to public health than the components related to athletic ability.

Physical fitness forms the basics of all activities of our society. If we fail to encourage physical development we will under-line our capacity for thought and work. In recent years, there has been disturbingly high evidence of mental ill health among the young generation, commonly, low self-esteem anxiety, depression, stress etc. which sometimes takes serious tool of an individual and at times leads to suicide also. Thus, physical fitness of our youth, who are going to be the future of our nation,

is a vital pre-requisite for the country's realization of its full potential as a nation. It also helps an individual to make full and fruitful use of his /her capabilities.

## The Importance of physiology

Physiology is, in broad terms, the study of how the body works. It is different from anatomy which refers to the structure of the body. In today's blog post I want to consider how the way we use the body affects emotion just as emotion affects the way we use the body in return. Remember that you can view the movie file that accompanies this article by visiting The Guide on this website.

We know, for example that when people feel sad or miserable they tend to hold their bodies in particular ways. Muscles become more relaxed and breathing and posture change. When we're sad we tend to look downwards or stare into space and over time our movements and even our thought processes slow down.

**Statement of the Problem**

The purpose of the present study is to compare the Physiological and Physical Fitness Components between inter college level players of volley ball and Kabaddi**.** Thus the researcher has taken up the below cited problem

A COMPARATIVE STUDY OF PHYSICAL FITNESS AND PHYSIOLOGICAL FITNESS COMPONENTS OF VOLLEY BALL AND KABBADI PLAYERS OF SRINAGAR CITY

**Significance of the study**

- This study will help to access to the performance related to Physiological and physical fitness components ofinter college level players of volley ball and Kabaddi.
- This study will provide information about the fitness status of the inter college level players of circle and inter college style Kabaddi.
- The study will be useful to discriminate the inter college level players of volley ball and Kabaddi having excellent potentialities for exhibiting the performance in tests.

**Need and importance**

- The study will help to reveal the difference in Physiological and physical fitness components, if any exist betweeninter college level players of volley ball and Kabaddi .
- This study will help to increase the awareness about the Physiological and physical fitness components status betweeninter college level players of volley ball and Kabaddi.
- This research will provide base for the further research in the same field.

**Objectives of the Study**

Keeping in view the need, background and purpose of the study, the research will carry out with the following objectives.

- To measure the Physiological and physical fitness components of volley ball and Kabaddi
- To compare the Physiological and physical fitness components betweeninter college level players of volley ball and Kabaddi.

**Hypothesis**

- $H_{1.}$ It is hypothesized that there will be significant difference in physical fitness components betweeninter college level players of volley ball and Kabaddi.
- $H_{2.}$ It is hypothesized that there will be significant difference in Physiological components betweeninter college level players of volley ball and Kabaddi.

**Assumptions**

- It is assumed that the testers will be well versed with the system of testing and will be knowledgeable with the equipments and instruments used in the tests.
- The subjects will take part actively and enthusiastically in the testing program.
- It is assumed that the playground equipments and tools are available will be of standard quality.
    - It is assumed that the authorities of volley ball and Kabaddi will co-operate fully.

**Limitations**

The researcher had recorded the shortcomings, while conducting the study.However, the researcher has made him aware of the following problems.

- The factors such as diet, mental and psychological status could not be possible to control.
- Sport background, motivation and cultural life could not be controlled.
- Since the Physiological and physical fitness test items, the researcher could not be able to control all measurements single handedly, therefore help from the professional and qualified assistants were availed.

**Delimitation**

Since during the research, the investigator will faced some limitation such as time, financial assistance and also availability of resources, therefore researcher decide to delimit the study as follows.

- This study will be delimited to inter college level male players of volley ball and Kabaddi
- The study will be delimited to following Physiological and physical fitness components such as C.V. Endurance, blood pressure, pulse rate breath hold capacity, muscular strength, speed, flexibility and agility.

**Definitions of the Operational Terms**

**Physical Fitness**: Refers to the organic capacity of the individual to perform the normal task of daily living without under tiredness or fatigue having reserves strength and energy available to meet satisfactorily any emergency suddenly placed upon him (Clark and Clark 1984). In the present study the physical fitness comprised of components like muscular strength, speed, flexibility and agility, which will be measured on inter college level male players of circle and inter college style kabaddi.

**Cardiovascular Endurance**: It is the ability of heart, lungs and blood vessels to supply oxygen and nutrients to the muscles for sustained exercise. 9 minutes run and walk test measure this traits.

**Blood pressure** (**BP**)**:** Blood pressure is the pressure exerted by circulating blood upon the walls of blood vessels.

**Pulse Rate**: **Pulse rate** is a measurement of the number of heart beats per minute The **pulse rate** varies from one person to another but the pulse is always an overall view of an individual

**Breath Hold Capacity.** Breath Hold Capacity is defined as the ability of a person through which one can hold his breathe without inhaling or exhaling.

**Muscular strength**: Muscular Endurance is the ability of the muscle to work very hard for a period of time and muscular strength is the ability or capacity of a muscle or a muscle group for exerting force against resistance.

**Flexibility**: Flexibility is the ability of an individual to move the body and its parts through as wide a range of motion as possible without undue strain to the articulation and muscle attachment.

**Speed:** Speed is the quickness with which one is able to move his body from one point to another.

**Agility:** Agility may be defined as the ability to change direction accurately and quickly moving rapidly.

## CHAPTER II
## REVIEW OF RELAED LITETATURE

## Introduction

We have selected inter college level players of circle and national style Kabaddi for our study. For that a detailed review of literature was carried out to know the work done in the field of Physiological and physical fitness components. A number of studies have been reported in the field of physical fitness to explore its factor and to determine the fitness, already published in the various books, research quarterly and completed research.

**K.Deepla, M. Gnanaprasad Reddy (2012)** Fitness is the term, which is widely used in the present day health conscious society. The people have realized the importance of fitness in day to day routines and also in achieving sports excellence. Fitness denotes a person status of physique in relation to its physical achievements. The latest scientific evidence also edict the fact that for internal or physiological soundness physical fitness is necessary. Modern physical educators divided the factor of fitness into skill related and Health related physical fitness. It is also an undesirable fact, that the health related physical fitness, which is main concern for physical educationists, is depended on the skill related physical fitness of an individual. It is also a high concern for a coach to develop various skills and for this the sportsperson's skill related physical fitness should be upgraded and developed .Physical fitness refers to the capacity of an athlete to meet the varied physical demands of their sport without reducing the athlete to a fatigued state. The components of physical fitness are: Strength, Endurance, Speed, Flexibility and coordination.

**M.Vasudev, JSO (2011)**The present investigation has been done to compare selected physical fitness components of high, mediocre, and low performance group of 30 male sub-Junior gymnasts who had participated in19th Sub-Junior National. The grouping was done based on their competitive results in sub junior national championship. Test for conditional abilities Pull-ups on Horizontal Bar, Jack knife sit-ups, Standing Broad Jump, Vertical Jump 30mts. Sprint, Sit, and Reach and Bridge. One-way ANOVA was used to find out significant difference between the groups. The result was showed that Jack knife sit-ups, Standing Broad Jump, Speed 30mts.and Sit & reach ware shown significant at 0.01level Body Weight ,.Vertical jump, Angle differentiation ability and Time differentiation ability were shown Not Significant

**Manmeet Gill, Nishan Singh Deol and Ramanjit Kaur (2010)**In the present study, an attempt has been made to compare physical fitness components namely speed,strength, endurance, agility and flexibility between female students belonging to rural and urban set-ups. The study was carried out on 100 female students, 50 rural and 50 urban of Punjabi University, Patiala. The data was collected by useof measurements of height

and weight as well as by application of tests like jumping, stepping, running, flexibility test.

# CHAPTER III

# METHODOLOGY

## Introduction

Methodology is the description of procedure or technique adopted in research study. The machinery or methodology occupies a very important place in any kind of research. The vehicle of research cannot perform its functions without it, since it is methodology which lays out the way of the research variables and procedure. The researcher has chosen the descriptive method for the research purpose. This method provides a method of investigation to study, describe and interpret what exists at present. This study will be carried out with a view to know the relationship between the variables of physiological and physical fitness between inter college level players of volley ball and Kabaddi

## Sampling

After due consideration of all the points, purposive sample technique will be employed. Only male inter college level players of volley ball and Kabaddi will be selected purposely for the study. A total number of 120 samples will be selected from the volley ball and Kabaddi from colleges of Srinagar City.

## Research design

This is a survey study under Descriptive Research.

## Criterion Measures

The criterion measures adopted for this study will be physiological and physical fitness components such as;

- Cardio vascular endurance
- Breathe Hold Capacity
- Pulse Rate
- Blood Pressure
- Agility
- Muscular strength.
- Flexibility
- Speed

### 3.3 Tools for Data Collection

| S. No. | Tools | Variables | Equipments | Scoring |
|---|---|---|---|---|
| 1. | 9 min. run & walk | Cardio vascular endurance | Minimum 200m track | Distance |
| 2. | One minute sit-ups | Muscular strength | Mat or flat surface | No. of repetition |
| 3. | Sit and reach test | Flexibility | Measuring tap & flat surface | Inches |
| 4. | Shuttle run | Agility | Wood blocks, stop watch and clapper | seconds |
| 5 | Nose clip | Breath Hold Capacity | Stop watch , nose clip | minute |
| 6 | Stethoscopes | Pulse Rate | stop watch and scoring sheet | Beats in minute |
| 7 | Blood Pressure check test by Sphygmomanometers | Blood Pressure | Sphygmomanometers stethoscopes and stop watch | mm. Hg. Systolic And diastolic blood pressure |
| 8 | 50yard dash | Speed | stop watch and clapper | seconds |

## ADMINISTRATION OF THE TESTS

**Cardio Vascular Endurance**
**Variables**: cardiovascular endurance
**Test**: 9 min. run & walk.
**Purpose**: The purpose of the distance run is to measure maximal functional capacity and endurance of respiratory system.
**Procedure:** The walking course is laid out in a 50 yard (45.72m) rectangular area (dimensions 45 x 5 yards), with cones placed at regular intervals to indicate distance walked. The aim of this test is to walk as quickly as possible for 9 minutes to cover as much ground as possible. Subjects are set their own pace (a preliminary trail is useful to practice pacing), and are able to stop for a rest if they desire.
**Score**: The performance in distance covered by the subjects within 9 min. is scored to the nearest 0.5 meters.

**Muscular Strength**
**Variables**: muscular endurance & strength
**Test**: One minute sit-up test (Modified sit-ups)
**Purpose:** themodified sit-up test is used to measured abdominal strength and endurance.
**Equipments & Facilities**
1. Stop watch or watch with a second hand.
2. Partner to hold the subjects ankles.
3. Mat or towel to lie on (optional).
4. Pen and pencil.
5. Sufficient floor space.

**Procedure**: The starting position of the test is a back lying position with knees flexed, feet on the floor and heels between 15-18 from the buttocks. The arms are crossed on the chest with hands on opposite shoulders.

A partner holds the examinees feet to keep them in contact with the testing surface. The examinee curls to a sitting position maintaining arm contact with the chest.
The chin should be tucked on the chest and should remain in this position until the completion of the sit-up. When the elbows touch the thighs, the sit-up is completed. The examinee curls back down on the floor until the mid-back contacts the testing surface. Another sit-up may then be attempted. The examinee begins executing consecutive sit-ups on the word ‘GO’. At the end of 60 seconds the test is ended with the word ‘Stop’. The score is the number

of sit-ups executed correctly during this time. Pausing between sit-ups is permissible.

**Score:** The score is the number of sit-ups executed correctively during the 60 seconds. Incorrect execution includes failure to curl up, pulling the arms away the chest, failure to touch the thighs with the elbows and failure to touch the mid-back to the testing surface in the down position.

**Flexibility:**

**Variable**: flexibility

**Test**: Sit & reach

**Purpose:** The sit and reach test is designed to evaluate the flexibility of the lower back and posterior thigh.

**Equipments and Facilities:**

1. Measuring tape
2. Marker

**Procedure:**

The examinees must remove the shoes to be tests to begin the test, the examinee sits in front of the 12 inch marked line with feet against the end of the of the line. The knees is repeats three times and their average is taken in to consideration. The maximum reach is, hold for one second time distance of maximum reach is recorded as the test score.should be fully extended and the feet, shoulder wide apart to perform the test. The examinee extends the arms forward with one hand placed on top of the other. In the actual test examinee reaches forward, palms down along the measuring line.

**Score:** The score measured to nearest centimeter is the most distance point reached in the three trail average. The finger tips of both hands should reach this point**.** If the reach of the two hands is uneven the test should be re-administered**.**

**Agility**

**Variable**: Agility

**Test**: Shuttle Run

**Purpose:** this is a test of speed and agility, which is important in many sports.

**Equipment required:** wooden blocks, marker cones, measurement tape, stopwatch, non-slip surface.

**Procedure:** This test requires the person to run back and forth between two parallel lines as fast as possible. Set up two lines of cones 30 feet apart or use line markings, and place two blocks of wood or a similar object behind one of the lines. Starting at the line opposite the blocks, on the signal "Ready? Go!" the participant runs to the other line, picks up a block and

returns to place it behind the starting line, then returns to pick up the second block, then runs with it back across the line.

**Scoring:** Two or more trails may be performed, and the quickest time is recorded. Results are recorded to the nearest tenth of a second.

**50 Yard Dash**
**Variable:** Speed
**Test**: 50 Yard Dash
**Purpose:** The aim of this test is to determine acceleration and speed.
**Equipment required:** measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.
**Procedure:** The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready and motionless, the starter gives the instructions "set" then "go.". The tester should provide hints for maximizing speed (such as keeping low, driving hard with the arms and legs) and the participant should be encouraged to not slow down before crossing the finish line.

**Scoring:** The best time out three trails of the nearest $1/100^{th}$ of a second will scored as final score.

**Breathe Hold Capacity**
**Variable:** Breathe Hold Capacity
**Test**: Breathe hold Test
**Purpose**: to measure the breath holding capacity of the subject
**Equipment required: Stopwatch, nose clip etc.**
**Procedure: A suitable chair will provided to the subject ti sit comfortably. The subject will asked to take maximum inhalation (breath in)and hold the breathing. As and when the inhalation will stop the stopwatch will started . this will be positive inhalation. Care will be taken to avoid taking of air either through the mouth or nose .Nose clipper will be used for this purpose. Soon as the subject opened his mouth for expiration the stopwatch will stopped**
**Scoring : The time taken for holding the breath will be recorded in $1/100^{th}$ of a second7**

**Pulse Rate**
**Variable:** pulse rate
**Test:**pulse rate check test

**Purpose:** To measure the resting the pulse rate of the subject .
**Equipment required:** Stopwatch ,score sheet
**Procedure: The pulse rate will taken in the morning priod to the conduced of the test the subject will be made to lie down on the ground or in the class room for 10 minute, to climate the effect of previous work if any . the resting pulse rate will be determined by the palpation of the radial artery (at the wrist )the number of pulse (heart beats will be counted for 15 seconds and then it will be multiplied by 4 for and accurate estimation of the pulse rate in beats per minute. The time started on the first beat pc palpation but the count will be start from the second beat the reason of this is that pulse rate is the taken as the time between the two or more consecutive beats**
**Scoring: The resting pulse rate will be taken as the number of beats/minutes**
**Blood Pressure**
**Variable:** Blood pressure
**Test:** Blood pressure
**Purpose:** To measure the Blood pressure of the subject .
**Equipment required:** Sphygmomanometers ,stethoscopes
**Procedure: prior to the conduced of the test the subject will be made to lie down for 10 minutes in supine position. the cuff of**Sphygmomanometers will be placed around the subject left upper arm approximately at heart level so as to measure (systolic and diastolic blood pressure ) .The cuff will be connected to a pressure pump and a monometer. By pumping air the pressure in the cuff will be rapidly raise to 225 mm. Hg. Which will be sufficient to obliterate completely the brachial artery so that blood comes through the radial pulse disappear. The pressure will be then lowered to a point will the pulse could be felt by using a stethoscope the palpation of the brachial artery at the bend of elbow will be distinctly heard at this point the presser shown on the dial will be considered as the systolic blood pressure. The pressure on the brachial artery will be then gradually reduced until the arterial pulse beats will be distinctly heard and the point at which the sound disappeared will be accepted as diastolic blood pressure

**Procedure for Data Collection**

First, the researcher will take the permission for the collection of data from the authorities of colleges. The schedule and time table for the test conduction will be planned in such a manner that the ongoing class work will not suffer, proper time to collect the data will be chosen either in the morning or in evening practice hours or fitness session hours. This planning will help the researcher to collect the data accurately. On the day of the test,

the subjects will be assembled and they will be given proper instructions about the testing program with a view to get systematic response and co-operate from the subjects and no confusion be left in their minds.

### 3.13 Statistical analysis

After data collection, data of physiological and physical fitness components of inter college level players of volley ball kabaddi, will be compared and analyzed by using ‘t-test to test the significance of the results.The level of significance was kept at 0.05 to test the hypothesis.

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